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## ETIOLOGY OF INFANTILE ECZEMA.

#### By R. W. TAYLOR, M. D.

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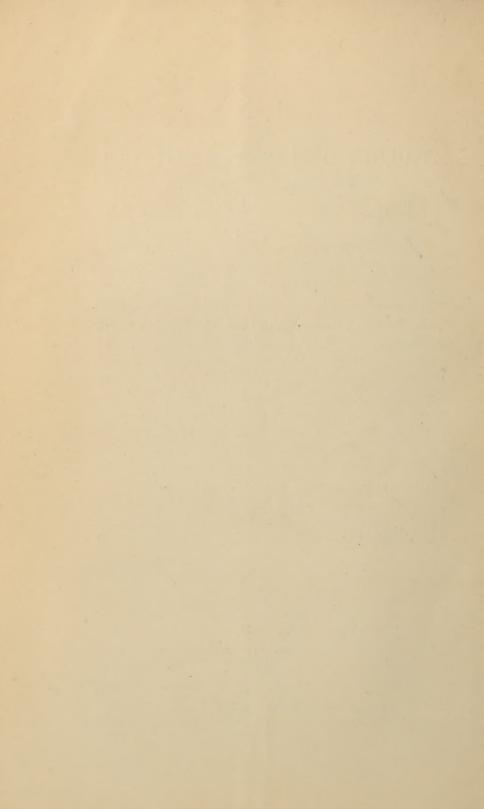
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### ETIOLOGY OF INFANTILE ECZEMA.

I desire to call the attention of my readers to a consideration of the etiology of eczema of infants. My attention has long been directed to the unsettled condition of opinion upon this subject, and I have endeavored by carefully studying, uninfluenced by any theory, a large number of cases to arrive as nearly as possible at correct conclusions. I think that such a study is at present much needed, in view of the utter want of harmony of opinion among men of authority, and of the fact that a clear knowledge of the cause of a disease is in reality the starting-point for its proper study and treatment.

It appears to me that a doctrine which teaches that every case of this affection is due alone to external causes is too dogmatic and subversive of a broad and extended study of facts. The assertion that it is simply the expression of a number of ill-defined diatheses is not borne out by the teachings of the clinic. Finally the view that some vague internal morbid condition is the active cause requires for its belief a full and lucid statement of what that condition really is. The simple statement of this unsettled condition of opinion is sufficient to show the necessity for its careful and systematic consideration.

In the first place now let us consider whether eczema may be caused in the infant by certain diatheses or conditions of the economy predisposing to disease. I shall not waste time and space in treating of the dartrous or herpetic diathesis, as I regard it as an injurious theory, almost wholly unfounded upon facts, and detrimental to intelligent study. In the proper place I shall consider the facts which I think have been used in the elaboration of this theory. There are, however, certain transmissible conditions which require attention—namely, the rheumatic and scrofulous diatheses—while the syphilitic diathesis, being specific in nature, is not comprised in the list of the probable causes of eczema. The question now for our solution is, do these diatheses predispose to the development of eczema in the infant? Admitting the fact of the transmission of rheumatism, the point which concerns our inquiry is at what age and in what forms does it show itself? and again, does it manifest itself in early infancy? As a general rule, I think it may be answered that the rheumatic diathesis when inherited is late in the evolution of its morbid processes. Thus clinical observation shows that in infancy such subjects are apparently healthy, and that in those exceptional instances in which an early evolution takes place the lesions are those of the joints and fibrous tissues. Later in life the manifestations may be more general, and then we may find that the integument is implicated. The same general course is seen when the diathesis is of the acquired form.

I do not discuss here the reasons why this diathesis is thus tardy in showing itself, as it has no bearing on the subject at issue. As I have said, there are cases in which rheumatism commences early; but, according to my observation, the skin is not one of the tissues liable to be implicated.

In support of what I now advance, by reasoning upon generally-accepted facts, I may state that among the large number of cases of infantile eczema which I have carefully studied as to their etiology there was not one in which I felt that I should be correct in considering it as originating in rheumatism, hereditary or acquired. I can readily understand that by loose reasoning an observer may arrive at this con-

clusion. Thus he has presented to him an eczematous child. the offspring of parents or of a parent who has the rheumatic diathesis, and he seems warranted in assuming that the skinaffection in the child was due to the rheumatic condition of the parent. The coincidence, however, far from warrants the conclusion. To settle such a point it is necessary to establish the fact that the diathesis of the parent existed prior to the child's birth, and that it inherited it; then it would be necessary to determine the exact relation between the acquired diathesis and the skin-affection. Taking therefore into consideration the facts of the late evolution of the rheumatic diathesis, and of the immunity of the integument, as shown by clinical observation, to the development of its lesions at early periods, I think we are warranted in leaving out this condition as one of the probable causes of infantile eczema. At some future day I propose to study the relation of rheumatism to the eczema of old persons.

This brings us to the question as to whether the affection can be or is caused by the scrofulous diathesis. Previous to this, however, let us determine, if we can, what is meant by the word scrofula. In the light of our advancing knowledge this state is no longer looked upon as a specific or quasispecific diathesis, while its true nature is being gradually understood. In another place,\* and with a different purpose, I have thus summed up the essential nature of this condition, and the description will apply to my present study. I there say that in the scrofulous state children are pallid and weak, and their assimilative processes are far from perfect. They present lesions of a hyperplastic character, indicating a low state of the natural processes. These hyperplastic changes are shown in glandular engorgements in tendencies to active hyperæmia of the various organs and tissues, particularly of the serous and mucous membranes. In such subjects inflam-

<sup>\*</sup>Syphilitic Lesions of the Osseous System in Infants and Young Children, page 172. New York, 1875.

mations are quickly excited, are very severe in character, and are attended with the production of large quantities of pus. Accompanying this condition the blood-making functions are impaired and the general action of the viscera is perverted. Besides active inflammation, low grades of hyperplasia of tissues are also observed. Now this condition, which for want of a more precise word we call scrofula, may be hereditarily transmitted, or it may be engrafted upon the organism of the infant by various causes, such as exhausting attacks of the exanthemata, adynamic fevers, and by the results of poverty. In some instances a naturally-delicate constitution is thus modified by a persistent dyspepsia impairing assimilation or by chronic diarrhea. These are the main deviations from health which, I think, constitute what we now call scrofula. In the supposed relation between this state and syphilis there is in fact no transmission of a specific condition. If in the offspring of a syphilitic person an enfeebled organism such as I have pictured is observed, there is nothing of a specific nature in it; it is simply a debility with its concomitant features, remotely due to the impairment of nutrition produced by syphilis in the parent. I am here speaking of cases in which syphilitic lesions are not observed in the child, and whose parents or parent had passed through the specific stage of the disease. As to the matter of therapeutics it is well to understand the non-specific nature of this condition, since antisyphilitic remedies are not indicated.

This then being the condition or diathesis, the question arises what relation exists between it and eczema? or, to be more precise, is eczema one of its manifestations? My opinion in this matter is that the relation, if such exists, between this condition and this skin-affection consists in the tendency to hyperæmia and hyperplasia, which is induced by the general systemic disturbances. The change in the quality of the blood which necessarily follows the general scrofulous condition I believe has not any material influence, at any rate, as an

excitant in the production of eczema. The essential cause of the eczema resides in the tendency of the cells of the structure to undergo active proliferation, and in the ready excitability of the vascular system to severe engorgements. Then again there are certain points to be considered relating to the integument itself. Consisting of a framework of young, actively-growing cells, copiously supplied with blood-vessels and nerves, and being placed in a position where it is subject to constant friction, and to the irritation of heat and moisture, etc., it contains within itself and is surrounded continually with those elements which are prone and liable to induce inflammation.

The purport then of our studies thus far shows that the relation between scrofula and eczematous eruptions of the skin consists in the tendency which the diathesis ingrafts upon the latter to inflammation of greater or less extent or severity. In this tendency there is nothing unusual or specific, but in truth the same is impressed on each and every organ or tissue, and the reaction of such, as judged of by the inflammatory process, is shown in proportion as any of them are subjected to irritation. This statement fully disposes of the second question which I laid down; namely, is eczema one of the manifestations of scrofula? Eczema of such children bears the same relation to the systemic condition that a bronchial catarrh does to it, or in fact any hyperplasia even of subacute character. In all such cases I am inclined to think that the starting-point of the skin-lesion is some local irritation, however slight, and that the same pathogeny obtains in case of the bronchial membranes. I do not think that the eczema begins in the majority of these cases without an exciting cause any more than a bronchial catarrh would or does. We may be unable to determine the exact causes, but such generally have existed, though perhaps they were not recognized. In many of these cases I have seen a very insignificant inflammation give rise to extensive patches of eczema; thus a small furuncle may form on the head, and owing to the predisposition an eruption of eczema involving large surfaces may result; or again, in some cases a few hairfollicles of the scalp become hyperæmic; they are scratched, owing to itching, and eczema results. In the vast majority of cases, if strict inquiry is made, the fact will be elicited that the affection began in a localized apparently insignificant manner. This mode of evolution points to a primary local origin, and differs strikingly from the mode of development when symptomatic or excited by internal causes. Under these circumstances a large area is usually first involved, or symmetrical organs are attacked, indicating that the affection is caused by a systemic condition. Thus, I think, our studies will thus far warrant us in stating that eczema of scrofulous nature does not bear the same relation to the general condition that syphilitic eruptions hold to the syphilitic dyscrasia, in which case they are specific manifestations; but that it is an epiphenomenon casually developed, and that its beginning and course are favored materially by the predisposing condition of the economy.

Too much stress can not be laid upon the proper appreciation of these facts in the matter of therapeutics; for they clearly indicate the necessity for the removal of the qualifying influence, in order not only to cure the existing affection, but also to guard against future attacks. Thus, though we admit a scrofulous form of eczema, it must be understood to arise in the modified manner I have described. Though in this condition there is a tendency in all tissues to active inflammation, yet that process is not set up unless under excitation; consequently we should err scientifically if we boldly say that there is a scrofulous bronchial catarrh or a scrofulous eczema, meaning that they were the manifestations or outbursts of the condition.

In order to prepare for the proper appreciation of the therapeutical indications, I may here say the eczema of this

origin is somewhat peculiar. It invades, as a rule, extensive surfaces, is profoundly seated in the integument, as judged by the thickening, and is attended with the production of large quantities of pus, is rebellious to treatment, and more than ordinarily prone to relapse.

We now come to the consideration of the question whether eczema as a skin-affection alone is hereditarily transmissible in the absence of an accompanying diathesis. Hebra, without entering minutely into this matter, decides the question in the negative, and authors generally think that the occurrence is possible together with a general diathesis. Dr. Tilbury Fox is certainly the most explicit on the subject; and, while he does enter largely into its discussion, concedes that eczema may be handed down from parent to child. Upon the solution of this question a number of very important considerations hang, and by it light may be thrown upon the etiology of other cutaneous affections as well as those of other tissues.

In order to argue the point fully let us formulate the question in a definite and scientific manner. Thus it can be put with more force as follows: Can a tendency to the development of eczema in the integument be transmitted hereditarily without the implication of the general system? In other words, can a local tissue-tendency of which the parent has become the subject be transmitted to the child without any other deviation from the normal standard of the organism? Though not very frequent, cases in which eczema is observed in parents and offspring are sometimes seen. I have observed such, and after having carefully studied them I have been unable to determine any other morbid predisposition of the economy; in fact, the patients seemed in perfect health. Then again other similar but less marked cases are often met with in practice. Thus there are whole families, parents and children, each member of which has an integument of great delicacy and fineness of structure, upon which very slight external causes produce very active inflammation

very quickly. In such subjects reflex influences may often be traced as producing cutaneous hyperæmia. Under these circumstances, and in view of these plain, undoubted facts, can there be a reasonable doubt but that a tissue-tendency or predisposition to inflammation has been inherited by the offspring? This same peculiarity is often observed in the mucous membranes, which in children are sometimes susceptible of the various grades of inflammation in the same manner and under like stimulus to its production in their parents. Explained according to a humoral pathology, such instances would be simply those of some unfathomable diathesis, and certain undetermined and vaguely-described bloodconditions would be set down as their cause. Such an explanation, however, is neither satisfactory nor scientific. Let us go a little further. There are a number of skin-lesions which are undoubtedly local, and are thus transmissible. Shall we conclude that they are the expression of a diathesis? For instance, ichthyosis is often transmitted to children from parents. Is there then an ichthyotic diathesis of which the skin-lesion is merely the expression? Again, we sometimes observe a condition much less marked than this affection. which we call xeroderma, which in a local or general manner may be inherited by offspring. Are we then to explain this case by the assumption of a somewhat modified ichthyotic diathesis? Examined with care and without prejudice, and unbiased by preconceived theories, these parents are found to be healthy and to present no other morbid predisposition. In what then has this tissue-change originated? Again, we find more advanced structural lesions of the skin, such as nevi molluscum, warty growths, and sarcomatous infiltrations, in the offspring similar to what were observed in the parents. Now these are strictly limited deviations of tissue-development. Shall they be explained by the existence of an inherited blood-condition which causes them? Other points equally suggestive and conclusive may be urged. Thus Dr. Brown-

Sequard has recently shown by experimentation that tissuechange both in the skin and nervous system, as well as induced deformities, may be and are transmitted from parent to offspring without the system or the blood being involved. These experiments are powerfully convincing against the opinion that a blood-condition or diathesis was handed down, as the lesions were observed in the lower animals who were healthy, and in whom no such diatheses are known to exist. What then is the explanation of these phenomena of heredity? If we endeavor with the most captivating arguments to establish a condition of the blood and general system as being the cause of these tissue-changes, we have in the end simply a more or less plausible theory which the fact of the cases will not really warrant. Indeed I am of the belief that in general no abnormal condition of the system exists. On the contrary, is it not more in accordance with the facts presented to consider the lesion of local origin? Such an explanation requires no straining of the reason for its acceptance. As we can detect in neither parents nor children any deviation of health in any way connected with the tissue-change, is it not more in accordance with the facts to conclude that in this instance of hereditary transmission one part of the organism is perpetuated in a slightly abnormal state rather than that the whole fabric is in some occult and undeterminable manner diseased? Certainly one diathesis or morbid state can not be cited as the origin of all these cases of local hereditary tissuelesion; and if such is their origin, their causes must be various. Yet we are wholly unable in a scientific manner to say precisely what any of these general morbid conditions are, or in what particular manner the blood is abnormal. Now it might be suggested that the tendency to inflammation of the skin and its liability to structural change as hereditary phenomena are not comparable, yet such an assertion can not have, to my thinking, any strong facts to support it. In each instance there is a morbid predisposition which we positively know

exists: the one is toward ephemeral and oft-repeated change. as in eczema; the other to permanent alteration, which also may occur several times. The condition which underlies both tendencies is, I think, somewhat similar, and differs, as far as we can decide with our now known facts, only in degree. In eczema there is a tendency of both the cells to hyperplasia and of the blood-vessels to hyperæmia, whereas in structural lesions the hyperplastic process is far in excess of the hyperæmic. These considerations and facts (and equally convincing and analogous ones can be cited pertaining to the nervous and osseous tissues) militate, I think, strongly against the assumption of a hereditary morbid dyscrasia as producing either eczema or other tissue-lesions and tendencies. On the contrary, they point distinctly to a local debility as the cause. Thus the integument of a person who has long been the victim of eczema undergoes a certain modification, consisting. as I have said, in a tendency of his tegumentary cells to active hyperplasia and of his blood-vessels to hyperæmia. This state, becoming chronic, is, I am of the opinion, firmly ingrafted on his skin, and may then be perpetuated or handed down without any modification to his or her offspring. Now it may happen that in the latter this tendency is not developed or manifested by an outburst owing to the absence of exciting causes, yet it may exist.

I have seen recently a case which fully proved this to my mind after a careful, unprejudiced examination. A young man of delicate build, but enjoying perfect health, having a thin, fine integument, who had never had a true eczema in his life, is unable to wear flannel underclothing in winter in consequence of the irritation which such would cause. Putting on recently a pair of woolen gloves, he was compelled to discard their use after a few days' wear, owing to the fact that an eczema localized to the hands began to show itself. I carefully examined the case to determine whether there was any other cause for the attack, and I could find none; in fact,

as soon as soft, unirritating gloves were worn no tendency to eczema was to be seen.

Now this young man is the son of a mother enjoying perfect health, but possessing a similar delicate integument, which for many years prior to his birth was more or less covered with eczema. He also has a sister who is afflicted with that affection at the changing of the seasons, she also being otherwise perfectly healthy. Certainly in this young man's case there is indication that an eczema of formidable character would be produced if there was any considerable irritation of the skin; in truth, there is in him a latent predisposition to cutaneous inflammation. The same general features are as often observed in the mucous membranes as in the skin, and instances of them could be cited as analogical evidence, were such necessary. The practical conclusion of the study is, I think, to render very probable the fact of a tissue-debility, which may manifest itself in the individual who possesses it or which may remain latent. It may also be transmitted to the progeny of such a person.

In the present study I have confined myself in the explanation of this morbid tendency to citing an abnormal condition of the cells and of the blood-vessels of the skin, purposely leaving for future study the nervous influence which may be involved in this tissue-debility, as that can be studied more appropriately in connection with the ctiology of the eczema of older persons. I may, however, say this here in advance, that I am of the opinion that this morbid impress of which I have written depends in a measure upon the nervous supply to the skin, and that this condition is manifested by tendencies to inflammation in that structure. I propose at some future day to consider in what way the cells and blood-vessels and nerves are severally implicated.

Let us now consider the relation between eczema in children and other cutaneous affections. This question has not yet received sufficient care toward its solution. Since my

attention has prominently been directed to the study of the etiology of eczema I have met with at least twelve cases, of which I have taken notes, of young children, who, having had either the exanthemata or some other acute skin-affection, were soon after more or less covered with an eczematous eruption. I examined all very carefully to find the cause, thinking that perhaps in some a debilitated condition of the system had been induced which had predisposed the patients to tegumentary inflammation. Though this hypothesis was admissible in two or three cases, it failed wholly to account for the rest: consequently I came to look upon this condition as being of a modifying rather than of an exciting nature. I must add that I had in these cases thoroughly eliminated all other causes, and had narrowed the issue down, as to cause and effect, to the previous and present skin-affections. The dermatic sequelæ was most often observed in measles and scarlatina, but in two cases the previous eruption was urticaria, and in one case acute erythema. The last three cases were due to chronic gastric irritation, and were of course primarily of a reflex nature. In another instance an attack of contagious impetigo was regarded as the cause. The point to be settled is whether the previous inflammations of the skin tended to the development of the eczema or whether it was a coincidence. The facts of the cases, as well as certain other analogical evidence which applies accurately, convinced me that there was something more than a simple accident. I am of the opinion that in consequence of the activity of the first morbid process in the integument a tendency was induced or ingrafted upon it to subsequent inflammation; in other words, that, as in the other instances cited, the cells and blood-vessels and nerves had received a morbid impress, and that the nervous supply was also in some manner impaired. This then would be in reality simply a tissue-debility, yet it might be qualified by other conditions. Thus if there existed from any cause a general condition of

ill health or of malnutrition, this latter would undoubtedly greatly modify the case; or again, if the patient inherited an integument prone to inflammation, this also would have its effects. This hypothesis, I think, fully explains these cases, and has the support of very convincing facts. Thus we see very frequently catarrhs of the mucous membranes which follow and were undoubtedly due remotely to previous attacks of the exanthemata. The conditions here are precisely the same. In these specified fevers the skin and mucous membranes are intensely congested and modified in the manner just described, and these sequelæ, which are admitted by every one, are really lesions of tissue-change and debility. While we admit the sequelæ of other tissues and organs, should we deny that the skin, which we know is so highly vascular and so plentifully supplied with nerves, is not liable also to such morbid impress? for in reality the conditions in every instance are similar. Then how common is it in the adult subject to find an active inflammation of a tissue or of an organ which follows and was caused by the predisposing influence of a similar previous attack? Indeed examples in the whole range of pathology may be quoted as supporting this view, which when summed up may thus be stated: that any inflammation of an organ or tissue, whether simple or specific, induces a tendency to a similar process in the future by ingrafting a peculiar morbid condition upon the cells, bloodvessels, and nerves of the part. Perhaps it might be thought that as the exanthemata are specific processes a peculiar condition would be ingrafted upon the integument; but from careful observation I have arrived at the conclusion that the effect is the same upon the integument, whether the first eruption is one of the exanthemata or a simple eruption. The explanation above given covers also cases of eczema following vaccination; but here an important point arises, namely, can an impress which has been ingrafted on one part of the skin modify the whole of that tissue? This question is suggested by the fact that following vaccination the eczema generally begins about or near the arm inoculated, and in contagious impetigo the initial skin-affection, as I will call it for simplicity, is very often locally distributed. My studies in this direction have convinced me that local eruptions may induce a local tendency to eczema confined strictly to these parts, and also a susceptibility which involves the whole tegumentary membrane. But I think that careful, painstaking observation will convince the student of this question, that while a local affection may induce a local tendency, it may also involve a predisposition of all the skin to be affected; but in many instances we find that the susceptibility is greater at the original focus than elsewhere. Still the occurrence of a circumscribed portion of the skin being involved and followed by a tendency of the whole tissue to like change is not unfrequently met with. Thus inflammation limited to the integument, for instance, of the hand may show itself as a result of a previous inflammation; yet with this there may be noticed a tendency to spread, and also that other portions of the integument may appear liable to undergo coincidently inflammatory change. This clinical fact is a very important one, and is capable of varied explanation. For instance, it is thought that the liability to spread is indicative of a systemic condition; indeed that the affection would have remained local had not a dyscrasia existed to aggravate it. The weak point of this argument rests in the fact that in very many instances a morbid systemic condititon can not be determined, and when such, in exceptional cases, is found it is difficult to associate it as a cause to the skin-affection. My observation has taught me, or rather caused me to think, that when a circumscribed area of the skin has once been profoundly altered by an eczematous inflammation the balance of that tissue also becomes liable to the same process, probably in this instance through the impress upon the general nervous supply to the skin, perhaps by sympathetic action.

Now in many of these cases it will be seen that the predisposition is greatest, both in frequency of relapse and in severity of form, at the original focus, and thus remains until the balance of the integument has likewise suffered. This is explained, I think, by the fact that in this area the vessels, cells, and nerves have all been profoundly impressed, while in parts remote the tendency depends upon the nerves alone, they having participated in the process which was once local. I am well aware that this is only a theory, yet I think it offers a more rational explanation in general than is offered by the view of systemic disturbance. Now I do not wish to deny that systemic influences do sometimes predispose to the extension of eruptions, as such upon occasions are observed in practice. What I want to do is to put forward the view that there are in the skin itself inherent causes to this extension without its being affected in any way by the condition of the general economy. As pertaining to the eczema of children. I need not enter further than I have into this question, which requires full elaboration in the study of eczema of older persons. What I have said may be summed up as relevant to our present inquiry as follows: that ecsema, more especially of severe form, localized to one spot, ingrafts a tissuetendency therein to a subsequent similar attack; and also that this affection of one part of the tegumentary membrane predisposes to a greater or less degree the whole to the same morbid process, which is manifested either by its direct extension from the original focus or by its beginning spontaneously at some point more or less remote from its origin.

The liability of eczema to spread and become general differs widely in different integuments, owing chiefly to the greater or less predisposition of the tissue. Thus in those who inherit the peculiar tendency to skin-affections which we have studied the predisposition may be expected to show itself by the implication of large areas of skin. Again, normally there exist, as we have seen, integuments more delicate

and prone to irritation than others, and in them the eruption would gain greater extent than in those having a skin of coarser texture and less susceptible of irritation. Finally the severity and extent and length of duration of the original local lesion have considerable influence upon the subsequent tendency of the whole integument to be involved.

We are now prepared to consider the influence of local irritations in the production of eczema of young children. It is almost unnecessary to repeat that the integument, owing to its peculiarity of structure and its exposed position, is more liable than other tissues and organs to inflammation. While this fact holds good in the more mature individual, owing to the extreme tenderness of this tissue in infants and children. it is particularly prone to be affected by even slight causes. Now there is a fact, which has been well established in the clinical history of infantile eczema, which points very strongly to its local origin. I refer to the very frequent commencement of the affection about the head. This part of the body for obvious reasons is more liable than others to irritation of all kinds, and it is here that in the vast majority of cases the affection begins. Now we will assume that in some cases general debility may act as a predisposing cause, that in others an inherited tissue-debility is presented, while in still another class previous eruptions, either general or local, have induced a condition of the integument favorable to eczema; but the question now arises, does the affection begin spontaneously? My observation prompts me to give a negative answer in general to this question. Indeed I think that facts warrant me in saying that in every or nearly every case the affection is primarily due to some irritation, and that its cause is modified by the conditions which I have considered. As I have said, the head is the part upon which eczema begins in the greater number of cases, and I think that the fact of this local limited occurrence being so frequent, if not constant, is very weighty as tending to indicate a primary local cause.

If these cases are carefully examined, and if the parents are properly questioned, the fact can in most cases be established.

It is impossible for me to indicate all local causes, but I will speak of several which are quite prolific in the production of eczema. First, I think, in order of frequency is the irritation of soap and water. The extreme cleanliness of many mothers and their frequent use of soap often causes eczema in their children. The last case of this affection seen within a few days clearly proves this point. In consequence of the irritation of soap redness appeared upon the scalp of an infant, which, being still washed, induced an eczema.

In this connection I will refer to a local cause which I have very often found to be the indirect means of producing this skin-affection. Very frequently indeed it will be seen in infants that a quantity of sebaceous matter has formed in patches upon the scalp among the hair. This being very unpleasant to the eyes of cleanly mothers, they use too active means for its removal by soap and water, and they induce an erythematous condition which often ends in eczema. If these tenacious patches were first well rubbed with oil, they could then be removed with more facility and with no bad result. This same condition, due no doubt to increased action of the sebaceous glands, very often among the poorer classes, becomes well marked, owing to want of removal, and by its presence affording a nidus to irritating and dirty substances, even to lice. The result is that eczema follows. Very often upon the head of a child a furuncle forms; it is improperly treated or neglected, or perhaps poulticed, and from this spot inflammation starts, and an extensive eruption of eczema is produced. In many children whose hair is long pediculi are known to cause the affection. Various other causes act upon the scalp in greater or less extent, and tend to produce a copious eruption. The escape of tears over the cheeks, of irritating secretions from the nose and from the mouth, are frequently the means of beginning an eruption which becomes

quite large. In many instances I have traced eczema to the ears as the starting-point, the affection having begun either at the angle between it and the head, where the skin is in contact, or perhaps in the ear itself. I have seen undoubted instances in which rough woolen clothes have caused redness of the skin, which has, owing to the non-removal of the cause and the want of treatment, merged into eczema. When speaking of treatment I shall state again what I think is well worthy of careful attention; namely, the necessity of avoidance of irritating swathing woolen clothes to children. In their anxiety to protect their young from cold, mothers very often take measures which result in harm, as eczema is produced. Indeed in winter much delay in the cure of infantile eczema is to be attributed to this cause. Thus children while under treatment are brought to the clinic enveloped in flannel, which being bound around the neck and face is very irritating to the skin. Of course the cure is delayed by this means, and I have upon many occasions found it necessary to explain to the mothers that while it was necessary to protect their children from the cold, it was of the utmost importance not to retard the cure by unnecessary irritation. I think that this practical point is worth the recital. Apropos of it, I may say that changes of season are productive of eczema, and that cold causes its continuance. Quite often does eczema develop primarily upon the cheeks of young children in consequence of the irritation of cold. Indeed I might go on naming other causes which are suggested to my mind by facts elicited from cases; yet I think that, having stated the general causes of local irritation, and having cited the few instances, I have said enough to prove that the vast majority of cases of eczema are thus produced.

